

# FLIGHT

The  
AIRCRAFT  
ENGINEER  
&  
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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## Flight

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### "FLIGHT" PHOTOGRAPHS.

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For Sizes and Prices see Advert. page v.

### DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list :—

1927			
Mar. 17	.... "Line Squalls."	Mr. M. A. Giblett, M.Sc.,	before R.Ae.S.
Mar. 17	.... Aero. Golfing Soc. (Sir S. Instone Cup), Sun-		ningdale.
Mar. 22	.... "Aircraft Law."	Mr. Lawrence A. Wingfield	before Inst.Ae.E.
Mar. 26	.... R.A.F. India Reunion Dinner, New Princes		Restaurant.
Mar. 26	.... R.A.F. v. Army Rugby Match, Twickenham.		
Mar. 29	.... R.Ae.C. Annual General Meeting		
Mar. 31	.... "Recent Model Experiments in Aerodynamics."	Mr. E. G. Richardson, before R.Ae.S.	
April	.... International Aero Exhibition, Copenhagen.		

### INDEX FOR VOL. XVIII.

The Index for Vol. xviii of "Flight" (January to December, 1926) is now ready, and can be obtained from the Publishers, 36, Great Queen Street, Kingsway, W.C.2. Price 1s. per copy (1s. 1d. post free).

## EDITORIAL COMMENT.



### The Air Estimates

PERUSAL of the Air Estimates for 1927-28 issued recently, and a summary of which was published in last week's issue of FLIGHT, indicates that, generally speaking, the policy that has been in force for several years now is being pursued, although in somewhat "decelerated" form. Although presumably necessary, due to the urgent need for economy, the further postponement of the long overdue expansion of the R.A.F. cannot but be regretted by all who realise the ever-increasing importance of the air arm. In this connection we cannot refrain from referring to an interview granted to a representative of *The Observer* by Lord Thomson of Cardington, (who was Secretary of State for Air in the Labour Government of 1924) and published in the March 13 issue of that paper. If Lord Thomson has been correctly quoted—and there does not appear to be any reason to doubt that he has—his statement that the Air Estimates are lower than he expected them to be, indicates that even the Labour Party (or, at any rate, one of its most distinguished members) realises that whatever reductions have to be made in the two older services, it is not safe, from a national and imperial point of view, to go too far with economy in the air. What we are chiefly concerned with is not so much how much money we spend on the air as how we spend it.

One statement of Lord Thomson's deserves, we think, to be very seriously taken into account by all who profess to give the subject of air defence more than a passing thought. Referring to the mistake in supposing that the expansion of the

British Air Force is based on the expansion of the French Air Force, Lord Thomson is quoted as having said that "The scheme of expansion authorised in 1923 had been, in point of fact, 'decelerated.' *And to this gesture there has been no perceptible response in other countries.*" The italics are ours. Later, Lord Thomson is quoted as having said, "Certain figures were given in the House by a Liberal speaker during the debate on the Estimates which, though not exact, are sufficiently so to prove that, as regards numbers of machines, at any rate, *Great Britain has indulged in no race of armaments.*" We would ask those of Lord Thomson's party who are tabled in Parliament to attempt to do away with the Air Force, to ponder these two quotations seriously. They contain two great truths which should ever be kept in mind in any debate on air policy.

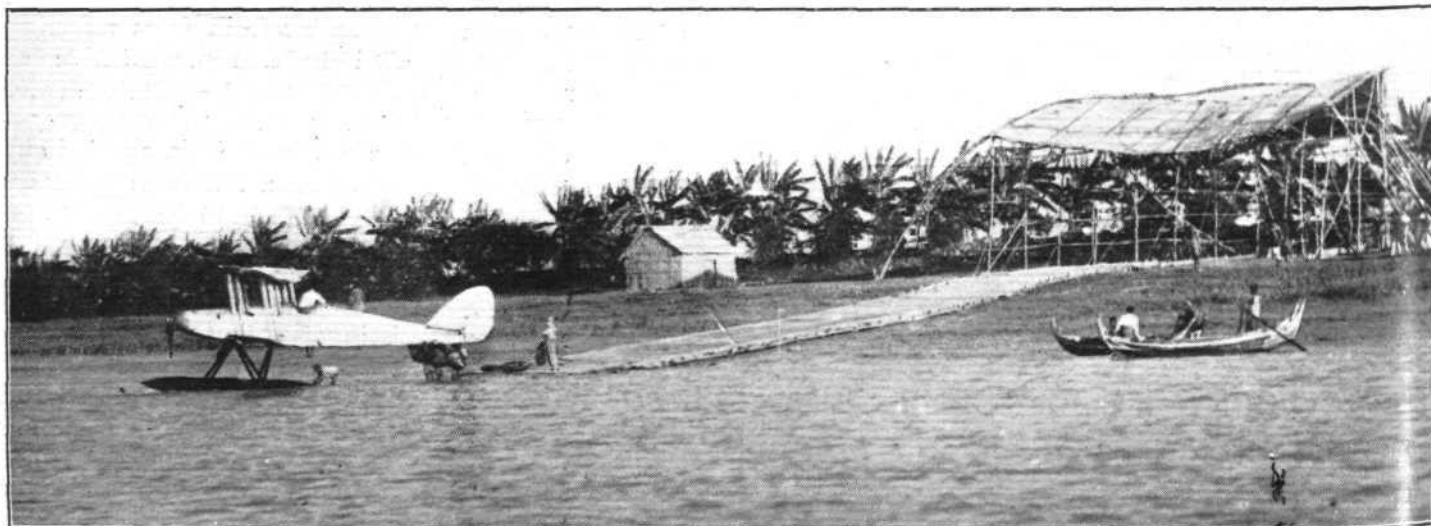
**And Civil Aviation**

If it be admitted that from the service point of view this year's Estimates are fairly satisfactory, the same cannot be said of civil aviation. It is true that we have made progress by forging the first link in the Empire chain—that between Cairo and Basra—and that a second link will be added shortly when the route is extended from Basra to Karachi. It is also undeniable that progress is being made in Africa, what with the Khartoum-Kisumu line, and the projected flight to the Cape, with the co-operation of the South African Air Force. And Sir Samuel Hoare has stated that flying-boats are under construction which will be used for a flight to the East, ultimately terminating in Australia. But—and here is the rub—this is not expected to happen until 1928. In the meantime other nations are making rapid progress. Germany's internal network of air lines is becoming remarkably complete, and is gradually linking up with the lines of other nations. France is already gaining valuable experience on her long-distance lines in northern and western Africa. Austria and Czechoslovakia have just concluded an agreement, and one may look for substantial progress there. To the east the Deruluft line is becoming a really useful link between Berlin and Soviet Russia. And yet we are, apparently, complacently contemplating small extensions in 1928 or so.

To us it seems that the day when Britain decided on an airship policy—no matter what happy results such a policy may ultimately have—was a bad one for heavier-than-air civil aviation. The airship advocates succeeded in getting currency for the idea that long-distance flying is necessarily synonymous with airship flying. That this is so, still has to be proved. In the meantime, we do know of what heavier-than-air craft is capable, and it is surely unwise to defer developments in this direction because some day we may have airships that will do the long-distance work.

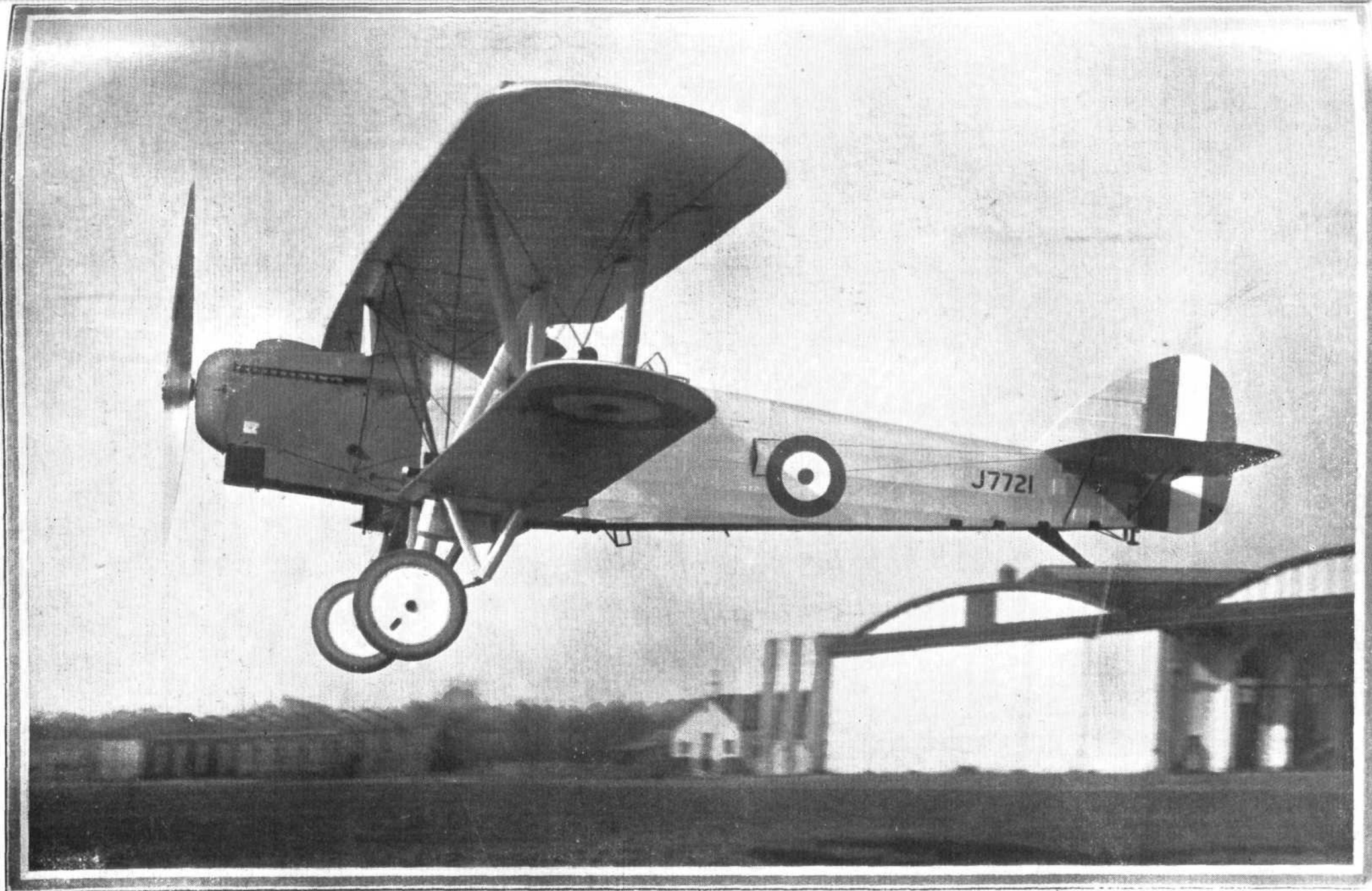
One particular branch of civil aviation which is treated very sketchily in any of the official statements hitherto made, is the use of seaplanes. We cannot believe that Sir Samuel Hoare really considers an experimental cruise in 1928 an adequate step in the evolution of seaplane services. True, we have our "weakly" flight to the channel islands from Southampton, but the less said of that the better. Of real progress there is none. Meanwhile a foreign company is carrying out an experimental service between Scandinavia and Harwich, via the German North Sea Ports. Imperial Airways have shown that they have no faith in the seaplane services, and have remained content with their Channel Islands joke for more than a year. Obviously they have no intention whatever of doing anything over any other route. And under the agreement no other firm can be granted a subsidy towards developing new lines in Europe. It is not a question of lack of machines. Service types of flying-boats are in existence which, with relatively small modifications, could be used for commercial work. But all that happens is that we are promised an experimental cruise to the east in 1928.

As long ago as 1920 Vickers showed the possibility of operating flying-boats from the Thames and the Seine. As long ago as 1919 or 1920 the Supermarine Aviation Works proved the feasibility of a Channel service, to which the travesty of a service since operated by Imperial Airways has added no useful knowledge. As long ago also as 1919 the North Sea Air Navigation Company had plans ready for services from England to countries on the other side of the North Sea. Truly, all is not well with British commercial aviation. Perhaps the explanation is, partly, that, of the total spent on the air, only 2.38 per cent. is devoted to civil aviation!



**AIR SURVEYING IN THE EAST:** This photograph shows one of the D.H.9 seaplanes with Siddley "Puma" engine and Short metal floats in use by the Air Survey Company, who are engaged on a photographic survey of an area of 1,000 square miles. The party is under the charge of Captain Durward, with Mr. Nevill Vincent as pilot and Mr. C. R. Thorne as photographer. The scene depicted is the company's temporary slipway and hangar at Chittagong, Bengal.





["FLIGHT" Photograph

LONDON — ? NON-STOP: This photograph shows the service type Hawker "Horsley", with Rolls-Royce "Condor" engine. It is on a similar machine, but considerably altered internally in order to carry more than 1,000 gallons of petrol, that an attempt is to be made this spring to beat the existing non-stop record (Paris-Jask).

# THE HUFF DALAND "CYCLOPS"

## A New American Single-Engined Bomber

In our issue for February 3 last, when describing the Huff Daland "Pegasus" Bomber, we made brief reference to a larger machine—the "Cyclops"—being constructed by the same firm, Huff Daland Airplanes, Inc., of Bristol, Penn., U.S.A., for the U.S. Army Air Corps. The "Cyclops," which is claimed to be the largest single-engined bomber in the world, has just recently been completed, and we are able, this week, through the courtesy of our American contemporary, *Aviation*, to give some brief particulars and illustrations of this machine.

The "Cyclops" is some 60 per cent. larger than the "Pegasus" referred to above, although it is constructed

the upper and lower "flanges" of the spars. The spar web is built up of short tubes of the same material, whilst the ribs are formed in a somewhat similar fashion of duralumin tubing. A rib of some 15 ft. in length can be built to carry hundreds of pounds in load and still weigh only 20 oz.!

One of the advantages of this metal construction—in fact, metal construction generally—is that these wings can be stored for long periods of time without depreciation. The upper wing is carried on a steel tube cabane with two adjustable flying struts of steel tubing, and the lower wing panels are attached to two wing roots on the fuselage. Ailerons are fitted to both top and bottom planes.

❖ \*\* \*\* \*\* \*\*  
+  
+ The Huff Daland  
+ "Cyclops":  
+ Three-quarter  
+ front view of the  
+ latest American  
+ single-engined  
+ bomber, said to  
+ be the largest of  
+ its type in the  
+ world.  
+  
❖ \*\* \*\* \*\* \*\*

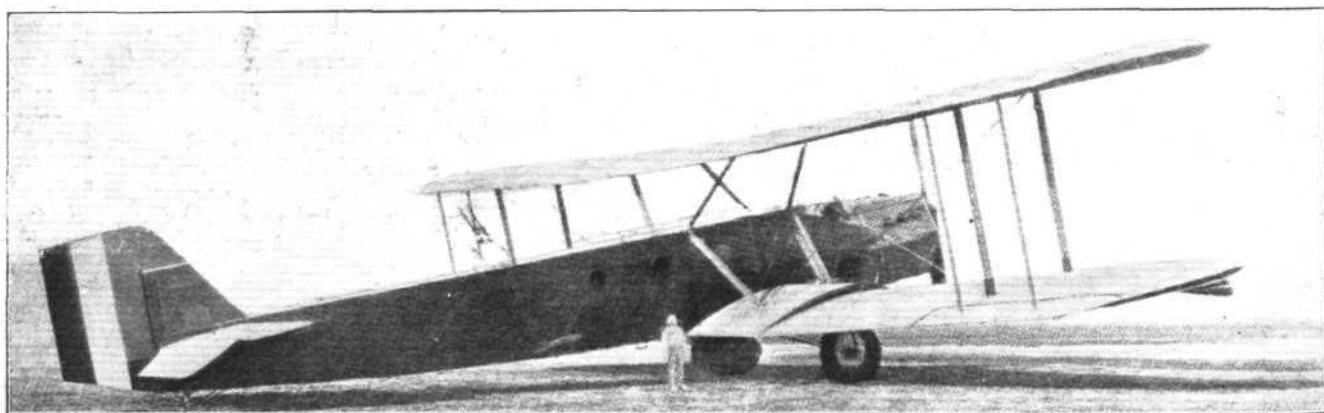


along somewhat similar lines. It is designed to be powered with a new 24-cylinder, 1,200 h.p. air-cooled engine, now being constructed at McCook Field, by the Air Corps Engineering Division. For the present, however, until this engine is finished, a Packard 800 h.p. 2A-2,500 engine is installed.

When in service, the "Cyclops" will weigh 17,000 lbs., and be able to carry a useful load of 9,000 lbs. This will include a crew of six, mountings for 10 machine guns, and racks for either one 4,000-lb. bomb, two 2,000-lb. bombs, or four 1,000-lb. bombs. The high speed will be round about 135 m.p.h., and fuel for 24-hours' flying will be carried, this

The landing gear is of the Huff Daland double-tripod type, which eliminates the axle between the wheels—a type which possesses several advantages. The shock absorbers are of the Oleo type, in which the use of rubber shock-absorbing cord is avoided. This absorber is made up of two cylinders, one fitting closely within the other. In the smaller cylinder is placed a heavy steel spring, which is kept immersed in oil. The shock-absorbing unit can be taken down by removing a single bolt, and the whole under-carriage can be removed by unscrewing four bolts. The tail skid is steerable.

The fuselage is of welded seamless steel-tube construction



**THE HUFF DALAND "CYCLOPS":** Another view of the giant single-engined bomber. At present it is fitted with a Packard 800 h.p. 2A-2,500 engine, but later a new 1,200 h.p. 24-cylinder air-cooled engine now under construction will be installed.

performance and weight-carrying capacity rendering the machine a powerful weapon. Thus, loaded with petrol, this giant machine should easily be capable of making a Transatlantic flight. The span of the "Cyclops" is 85 ft., and the overall length 65 ft.

The structure of the "Cyclops" is all-metal, being made up of welded seamless chrome-molybdenum steel tubing. This construction is a new development by C. T. Porter, the designer of the "Cyclops." Under proper heat treatment this material has a tensile strength of 200,000 lb. per square inch. The wing spars are built up in a very simple fashion: two long tubes, running the whole length of the wing from

throughout, without bracing wires. While alignment problems during manufacture presented unusual difficulties, they were more than compensated for by the rigid structure obtained which does away with the necessity of realignment due to hard usage or to climatic changes.

Considerable interest is attached to this machine, owing to the possibility of one of its type being used in an attempted flight from New York to Paris during the summer. While there is no concrete information available regarding this, it has been suggested that a modified "Cyclops," re-designed as a three-engined machine would be most suitable for the attempt.

# NEW JUNKERS COMMERCIAL MONOPLANE

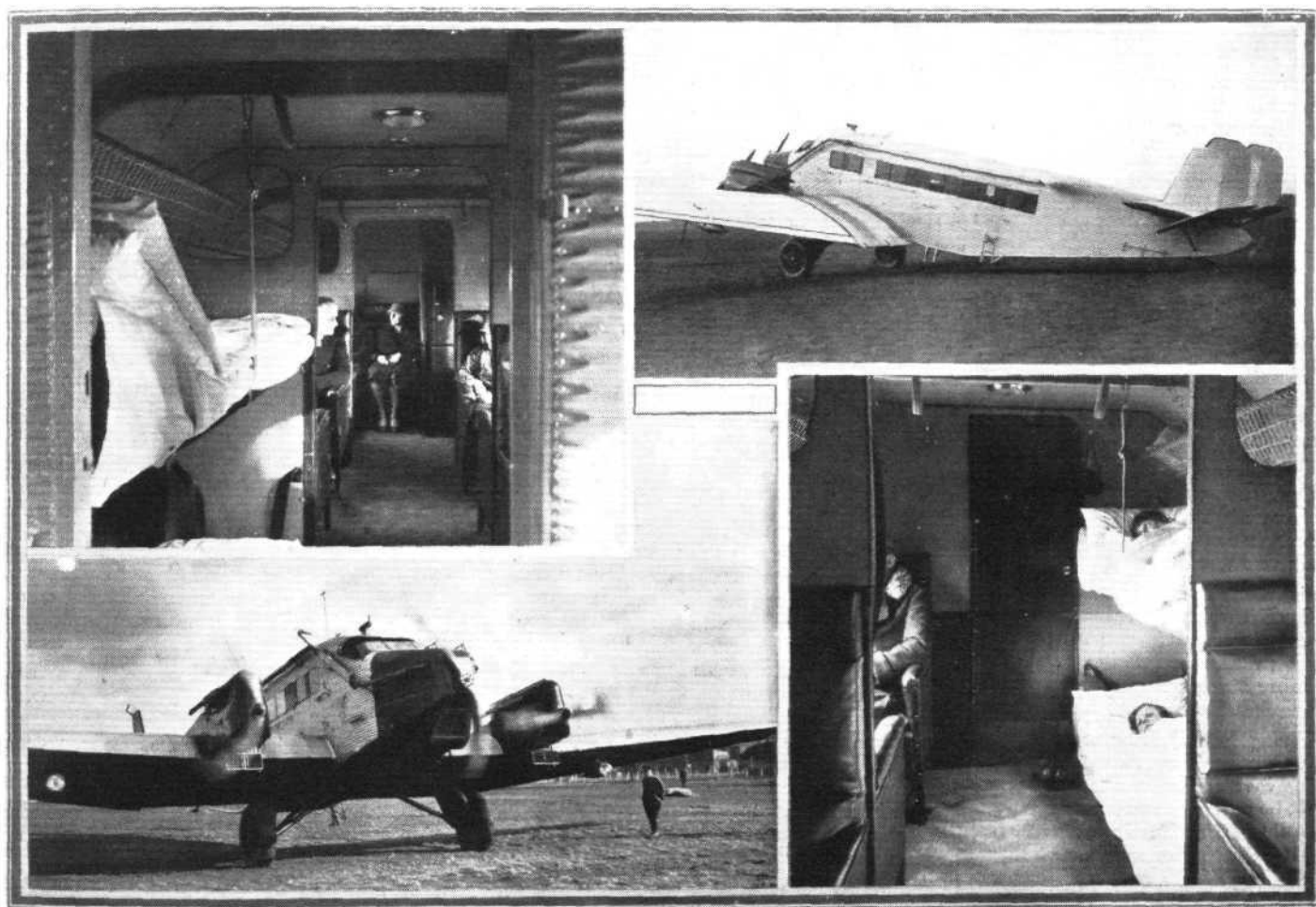
## The G.31 has Sleeping Berths and Armchairs

Much has been written and spoken recently of comfort in air travel, and various means have been suggested for giving to air passengers that comfort which they associate with railway travel and expect in aircraft. As the problem has not yet been solved (in any case, at the moment it takes the aircraft designer most of his time to produce a commercial machine, and he usually has little surplus weight left to devote to comfort), it is always of interest to follow the progress made in the same directions by others. Particulars have just reached us of the Junkers G.31 in what may perhaps be regarded as its service form, as distinct from the first experimental type, which was produced last autumn, when it was illustrated in *FLIGHT*.

"mixed" arrangement, and when the photographs were taken the machine had not, apparently, reached the stage in its evolution where one compartment is labelled "Herren" and another "Damen."

In the actual arrangement illustrated the forward compartment has two folding berths on one side, and two armchairs on the other. The middle compartment has four armchairs, while the last, in the wall of which is the entrance door, has one armchair and a sofa, seating two.

Between the pilots' cockpit and the front passengers' compartment is a large compartment for freight and luggage and, separated from this by a wall, the auxiliary engine room, in which is installed the engine that drives the electric



**COMFORT IN SIZE:** The latest type of Junkers aeroplane, the three-engined G.31, has been experimentally equipped with sleeping accommodation, although by a slight rearrangement the saloon can be used for ordinary day travel. One feature is that the available saloon space is sub-divided so that lounge chairs may be provided in one compartment, sleeping berths in another. The view in the top left-hand corner shows the saloon, looking aft from the pilots' cockpit, while that in the lower right-hand corner shows the forward compartment, with the door leading to the cockpit. A large luggage compartment is situated in the bottom of the fuselage, under the floor of the saloon.

The G.31 is regarded by the Junkers firm as the logical development of the G.24, of which, in the main, it is an enlarged edition. It is intended for service over comparatively long routes, where night flying is to be developed as part of the regular schedule, and has consequently been planned, as regards its cabin arrangement, with the object in view of arranging for sleeping berths to be installed.

In order to render the machine suitable for both night and day travel, the available saloon space has been divided into three compartments. According to whether a compartment is required for day or night flying, it is equipped with armchairs or berths, the space being such that either two armchairs facing one another, or two berths, one above the other, can be installed. Our photographs illustrate this somewhat

generator and the compressor. The latter provides the pressure necessary for starting the engines and for maintaining pressure in the petrol system. The generator supplies light to the compartments, cockpits, luggage hold, landing and navigation lights, etc., and power for the wireless outfit. Actually, this generator is normally in reserve, a windmill-driven generator supplying the electricity during flight. The petrol system (the main tanks are in the wings) is equally duplicated, there being two pumps, each of which is able to supply all three engines, and a hand pump besides. Doubtless all this makes for complication, but with the low-wing monoplane arrangement, direct gravity feed was probably out of the question.

Below the floor of the saloon is a luggage hold for smaller



articles, reached by a separate door, so that passengers are not inconvenienced by the luggage in any way.

The main data relating to the Junkers G.31 commercial machine are:—Wing span, overall, 30.3 m. (99 ft. 4 ins.); length, overall, 16.2 m. (53 ft. 2 ins.); height, 6 m. (19 ft.

8 in.); average saloon width more than 2 m. (about 6 ft. 9 in.); total engine power, 1,200 b.h.p. Total flying weight, 7.7 tons (metric) = 16,940 lbs. Range with normal tanks, 1,000 km. (620 miles), at a speed of 185 km./hrs. (115 m.p.h.). It is understood that a G. 31 will be fitted with Napier "Lions."

## THE BOURNEMOUTH EASTER MEETING

### List of Air Racing Events

THE Easter Air Race Meeting will be held at the Ensbury Park Racecourse, Bournemouth, on April 15, 16 and 18, 1927, under the Competition Rules of the Royal Aero Club, for prizes totalling £400.

#### Christchurch Handicap Stakes

Open to any type of aeroplane owned by Flying clubs. Entries must be made by the club owning the aeroplanes and the pilots must be members and have been entirely trained by the clubs. Course approximately 20 miles. First prize, £30. Second prize, £10. Third prize, £5, if six or more starters.

#### "Kill-Joy" Trophy and Stakes, £50

*Private Owners' Handicap.*—Open to any type of aeroplane privately owned and registered in the name of an individual. The definition of "privately owned" is at the sole discretion of the Royal Aero Club who reserve the right to refuse any entries. Open to all pilots not necessarily the owner of the aeroplane. Course approximately 20 miles. First prize, £40. Second prize, £10. Third prize, £5, if six or more starters.

#### Ensbury Park Stakes

*Low Power Handicap.*—Open to any type of aeroplane the total piston displacement of the power plant of which does not exceed 1,500 c.c. Open to all pilots. Course approximately 10 miles. First prize, £20. Second prize, £10, if five or more starters.

#### The Bournemouth Aerial "Oaks" Handicap

Open to any type of aeroplane. Open to lady pilots only. Course approximately 10 miles. First prize, £20.

#### Bournemouth Easter High Power Handicap

Open to any type of aeroplane with engine of 100 b.h.p. or over. Open to all pilots. Course approximately 20 miles. First prize, £40. Second prize, £10. Third prize, £5, if six or more starters.

#### Poole Handicap

Open to any type of aeroplane entered by the owner who must also be the pilot. Course approximately 20 miles. First prize, £30. Second prize, £10. Third prize, £5, if six or more starters.

#### Winton Handicap

*Flying School Handicap Race.*—Open to any type of aeroplane entered by recognised Flying Schools or clubs giving flying instruction. The pilot nominated by the school or club must be employed as a pilot instructor. Course approximately 20 miles. First prize, £40. Second prize, £10. Third prize, £5, if six or more starters.

#### Branksome "Cirrus" Handicap Stakes

Open to any type of aeroplane fitted with the "Cirrus" Engine, Mark I or Mark II. Open to all pilots. Course approximately 20 miles. First prize, £20. Second prize, £10 if five or more starters.

#### Boscombe Stakes

*Flying Club Instructors' Scratch Race.*—Open to standard D.H. "Moths" with "Cirrus" Mark I engines, entered by a recognised flying club. Pilots must be pilot instructors employed by the club. Course approximately 10 miles. First prize, £20. Second prize, £10, if four or more starters. Entries to be made by the flying club owning the aeroplanes.

#### Holiday Final Handicap

Open to any type of aeroplane. Open to all pilots. Course approximately 20 miles. First prize, £30. Second prize, £10. Third prize, £5, if six or more starters.

#### Bournemouth and District Business Houses Sweepstake

The proprietors of certain business houses in Bournemouth, and district wish to subscribe to a handicap sweepstake race and are prepared to pay an entry fee of £10 each for an aeroplane to be entered in their name for this particular race.

The entry fees so provided will be allocated as follows:—  
First.—35 per cent. to the owner of the aeroplane, 30 per cent. to the business house entering.

Second.—15 per cent. to the owner of the aeroplane, 10 per cent. to the business house entering.

The balance of 10 per cent. goes to the racing stakes. The aeroplanes will be allocated to the various business houses by the Royal Aero Club. It is expected that 10 or 12 entries will be received. Course approximately 20 miles. Owners of aeroplanes are requested to state if they are prepared to allow their aeroplanes to race under these terms. No entry fee is required from the owner of the aeroplane.

#### Bournemouth Hotels Association Sweepstake

The proprietors of certain hotels in Bournemouth wish to subscribe to a handicap sweepstake race and are prepared to pay an entry fee of £10 each for an aeroplane to be entered in their name for this particular race.

The entry fees so provided will be allocated as follows:—  
First.—35 per cent. to the owner of the aeroplane, 30 per cent. to the hotel entering.

Second.—15 per cent. to the owner of the aeroplane, 10 per cent. to the hotel entering.

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The programme of events for each day will be fixed after close of entries.

Entries close noon Thursday, April 7, 1927. Entry fee for each event, 5s.

Full particulars and entry forms can be obtained from the Royal Aero Club, 3, Clifford Street, London, W.1.

#### The Institution of Aeronautical Engineers

On March 22, Mr. Lawrence A. Wingfield is reading his paper on "Aircraft Law"—of which subject Mr. Wingfield has made a special study.

The Institution are holding a Dinner at the Savoy Hotel on March 31 (at 7.30 p.m.) when Sir Charles Wakefield will preside and present the "Wakefield" and the Council Medals to Mr. M. L. Bramson and Flight-Lieut. G. H. Reid respectively. It is hoped that the Secretary of State for Air will be present and that the Air Council and the British Aircraft Industry will be represented by many distinguished members. Tickets for this function will be £2 2s., which will include wines, cigars, etc.

The Annual Meeting of the Institution will be held on March 29 in the Council Room of the Society of Motor Manufacturers and Traders, 83, Pall Mall, when Lieut.-Col. J. T. C. Moore-Brabazon will preside, and the amalgamation proposals will be discussed.

#### 28th Squadron (R.A.F.) Old Boys' Association

It has been decided, once again, that the half yearly function of the 28th Squadron (R.A.F.) Old Boys' Association will take the form of a social, providing a whist drive followed by dancing and musical items. The social will be held on Saturday, April 2, at Slaters' Restaurant, 34-5, High Holborn (next Chancery Lane Tube Station) at 6.30 p.m. for 7 p.m. sharp. Tickets, including refreshments, will be 3s. single, 5s. 6d. double. Applications for tickets should be made as early as possible, to the Hon. Sec., C. T. Hodges, 102, Camden Street, London, N.W.1.

#### R.A.F. Flying Accident

THE Air Ministry regrets to announce that as the result of an accident at Peshawar, India, to a Fairey 3F machine of No. 60 Sqdn., Kohat, on March 12, Flying Officer (Hon. Flight. Lieut.) Robert Owen Rigg, the pilot of the aircraft, No. 362688 L.A.C. Patrick John Sexton, and No. 327848, L.A.C. William James Meaden, were killed.

## ESTIMATES SPEECH OF THE SECRETARY OF STATE FOR AIR

In his speech before the House, Sir Samuel Hoare said that there were three significant features in the present Estimates. They were a provision for a substantially stronger Air Force for less money than was needed last year, a large reduction in the expenditure upon the Middle East, and the considered policy of replacing old machines by new types. It was not often that gain was obtained for less money, and particularly in the case of a highly technical service like the R.A.F., and in a period when developments were constantly adding to the cost of the material. He hoped then that it would be a pleasant surprise to find that he was making an increase of nearly 10 per cent. in the Air Force strength with estimates that were 3 per cent. less than those of 1926; but he uttered the warning that though this 3 per cent. reduction had been made possible by various means, heavy commitments in connection with the defence programme were bound to involve an increase of expenditure in future years. For the time being we had to be thankful for the 3 per cent. reduction with the 10 per cent. increase in strength during the most difficult financial year the Chancellor had had to face. He had never withheld the fact that in past years we had been relying on existing stocks of machines and engines. These were now almost exhausted, and new types had reached the stage when they could be adopted by the Air Force. The taxpayer might regret the exhaustion of these stocks upon financial grounds, but anyone interested in the progress of aviation would welcome the change to modern machines. All the Home Defence Regular Squadrons were already equipped with these, and he hoped that by the end of the year two-thirds of the whole Force would be in the same position. An important point he wished to emphasise was their intention not to order any more types of war-time design. There was a net increase of £330,000, or, if like was compared with like and the overhead cut was taken into account, a net increase of £630,000, to provide for this modern equipment. It could not be said, therefore, that his efforts to reduce expenditure were at the sacrifice of new material and research. There was a cut of £680,000 in the expenditure on the Middle East, and year after year, in accordance with his pledges, there had been progressive reductions in this quarter.

In 1921 the expenditure on Iraq alone was upwards of £20,000,000, whilst today it was about one-tenth that sum. What better example of the efficiency of the Air Command could there be than that? The internal progress of that country was revealed by the fact that during the last twelve months there had been no military operation of a serious kind. He proposed further reductions in the Imperial garrison during the next year.

On the question of Imperial Air Policy, for the first time it received its proper emphasis in the Air Estimates. Air policy, to be anything, had to be Imperial and not parochial; mobile, and not local. Full value of aircraft would not be obtained without organizing Imperial air routes. Mobility over them would make possible the concentration of military and civil power, which could only be done if the Empire worked together. The foundation of this Imperial policy had been laid and the structure was rising above the ground. As an example of this we had the proposed number of co-operative flights across the whole length of Africa, from Cape Town to Cairo. South Africa and the Crown Colonies were helping in this plan, and it might lead to a regular service between Egypt and South Africa. The doctrine of the Imperial Air Policy made us think of air power as a great concentrated force rather than of air power as a collection of localised fragments. As in the case of naval strategy, which did not depend on locking up numbers of local defence forces in particular ports, but upon the power of concentrating an overwhelming force at a threatened point, so would air strategy be directed towards organising Imperial air routes by which aircraft could concentrate power in a short period of time. This would hold out definite hopes of a reduction of expenditure, for it meant we could dispense with some of the localised defences. The success of the airship had a direct bearing on this doctrine of mobility. The two new airships being built would, he believed, be capable of transporting more than 200 fully armed men and a complete squadron of aeroplanes. If this was so, there would be a great reduction in time taken to reinforce a threatened point: thus mobility would mean economy. In pursuance of the policy it was proposed to make long-distance Empire routes, like the African flight mentioned, a regular part of the R.A.F. training. The preparation of landing grounds

for the route to Singapore was to begin and, for the first time, a flight of flying-boats was being sent to the East, one of whose duties would be to co-operate with the Royal Australian Air Force. It was not to be thought that the deliberations of the Imperial Conference, which this Imperial policy followed, were restricted to air strategy and defence. The agreed principles concerning the latter were equally applicable to civil progress. Imperial air routes were to its advantage as much as to military aviation. For the first time the Estimates showed a sum of £93,600 for the support of a regular service between Egypt and Basra, which, he hoped, would shortly extend to Karachi. This link was admittedly limited, but even as it was it caused a saving of one week in the transport of mails to India; and from that could be imagined the advantages when the full extension was established between England and the great cities of India.

Referring briefly to his recent flight to the East, the Air Minister said that he undertook the first flight because he realised the importance of the service, and one of his other objects was a discussion with the Government of India on the interesting proposals they were considering for the strengthening of the Air Force and starting flying lines in India. Since his flight, the Cairo-Basra section had begun, and Karachi business men were using it for express communications, and on more than one occasion there had been straphangers in the machine between Baghdad and Basra. The discussion had been very valuable to him. Following it but he did not presume to say because of it, India had embarked on a programme of civil aviation which should be of great value to the country and to Great Britain.

In eulogising the British pilots, both military and civil, the Secretary for Air did not think that sufficient attention had always been given to the excellence of the work that had been carried out in the very difficult conditions by the Air Force on the Indian Frontier. Not long ago, many said that the mountainous nature of the country rendered effective air work impossible, and that activities were so restricted as to make the Air Force in India of little account. His flight along the frontier had shown him that our force there took a most integral part in the defence of the country.

On the question of material, machines and engines, Sir Samuel Hoare claimed progress in certain directions. The two airships under construction differed materially from the war designs. Stainless steel, oil engines, new methods of bracing and girder construction would make them stronger and safer than any of their predecessors. As to aeroplanes, the modern passenger type could carry 20 passengers at 110 m.p.h., as compared with 6 passengers and 90 m.p.h. of a typical 1919 machine. In 1923 the average weight of engines for every unit of horse-power was over 2 lbs., which had now been reduced by over 25 per cent. Three years ago, an engine required a complete overhaul after 75 hours' running. The latest types could be relied on for 250 hours. There were also less startling advancements in meteorology and wireless. He instanced the importance of these factors on his recent flight. When the wireless failed, or the reports received were inadequate, it left bewilderment and uncertainty. It was only now that the constant need of wireless and meteorology was beginning to be realised. Wing Commander Pulford had told the Air Minister that lack of good weather reports was one of the chief difficulties in the magnificent flight across Africa. He was glad that the principal governments of the Empire were taking interest in these two important questions. In summing up, Sir Samuel Hoare said that the central principle of the air policy had to be Imperial, which applied both to military and civil aviation, and that Empire air routes were essential for the latter if we were to bring England within 2 days of Canada, 5 days of India, 6 days of South Africa, and 11 days of Australia. He saw the prospect of using air force as an instrument of economy, and not as a stimulus to greater expenditure, and therefore making aviation an asset and not a liability to the British Empire. It was from that point of view that he asked the attention of the House to the Estimates.

### DISCUSSION ON THE AIR ESTIMATES

MR. LEES SMITH (Keighley, Lab.) observed that the Air Ministry was an adventurous, aggressive, confident department, but not an economical one. That the air expenditure must not be regarded as an additional expense because it was met by corresponding reductions in the Army expenditure was a mere fallacy when the latter were looked into. They had to see where this Air Force expansion programme was going to lead eventually. In 1919 the scheme was to allow a gradual increase up to a maximum of 32 squadrons, and two years later that was cancelled, and an increase of 15



squadrons agreed upon. The present Air Minister absorbed that number and added more. The expansion of the French Air Force was referred to by the Prime Minister in 1923, and further expansion in our home defence proposed, which was revealing itself now. The number of squadrons was gradually increasing, and today they stood at 63, whilst next year it would be 69, and, finally, he calculated, it would be 80, the figure which the Prime Minister quoted in 1923 that would make us equal with France. But meanwhile the French expansion was disintegrating and collapsing, so that the ultimate completion of ours would elevate us to the first Air Force in the world. When the French realised that fact they would continue their programme, and so the whole process would start afresh. He urged that the air services should be transferred into an international air service under the League of Nations.

CAPTAIN GUEST (Bristol, E. L.) hoped the Air Minister would leave nothing undone to obtain the highest possible efficiency in our auxiliary air arm, which would immediately have to take its place with the Regular squadrons during hostilities. He thought that too much money could not be spent on civil aviation. He congratulated the Air Ministry on its development, and on having for its inspiration Sir Hugh Trenchard, to whose great services testimony was borne by the fact that he had been Air Chief Marshal for nine years under five separate political Air Ministries.

LIEUT.-COLONEL MOORE-BRABAZON (Chatham, U.) urged the necessity of the airship for Imperial air communication. He said there was an enormous field for research in aviation. The supply side, from the administrative point of view, was one of the most important, because the industry really existed today on the wise administration of the Air Ministry in placing orders. He objected to the sticky hand of the Government on free experiment in design by private firms. On the question of air accidents he observed that our modern civil machine had nothing to do with the military side. They were going along entirely different lines, and he was certain it was wholesome that they should do. The two were not in any way comparable, and he hoped they would not be given some misleading statements about flying accidents by people who compiled statistics. He was interested in the number of accidents per miles flown, and not in the number of deaths for the amount of miles flown, because whether sixteen persons were killed or only one, an accident was an accident, and it would give a wholly misleading idea of the whole problem to them unless the statistics were based on the miles flown per accident.

LIEUT.-COMMANDER KENWORTHY (Central Hull, Lab.) said he found himself in considerable agreement with Colonel Moore-Brabazon when he complained that, while we were spending £115,000,000 on defence, the Air Ministry only took £15,500,000 of that sum. It was impossible to study the strategic position of the world without coming to the conclusion that we were spending far too much on the Navy, and, for that matter, on the Army, and far too little, comparatively, on the Air Force. He was proud of Sir Samuel Hoare's great enterprise in flying to India, and he congratulated him on the patience and courage he had shown. He wished that he had extended his flight to Australia (Sir S. Hoare: Next time). There were no technical difficulties in the way of the extension of the Cairo-Karachi route; first of all to Burma, and presently on to Australia.

MR. BALDWIN desired to attract attention to the subject of air accidents into which he had made a personal investigation down to the smallest details. The first thing that struck the layman, he said, was the complexity of the work performed by the Air Force and its manifold difficulties; and also the

ground organisation that was required. It was only those who had had no experience of the daily routine who thought there were too many employed on the ground organisation. Another fact that struck one was the great difference between civil and military work. It was difficult for those who had never flown or seen the Air Force at work, to realise that the primary weapon, the aeroplane itself, was a weapon of immense power and of immense speed, weighing anything from a ton up to seven tons; that is to say, from the weight of a light motor-car to the weight of a loaded London omnibus; and that that aeroplane was driven to its landing place at the speed of an express train. It was good to get those simple facts in our mind before we began to think of accidents and their causes.

The Air Force, like all our military forces today, was striving to make every pound and penny go as far as it could. Economy had to be practised, he was convinced, to the utmost limit, and constantly there was a drain of personnel from the home stations and even the home defence force to the overseas garrisons, which, we might well imagine, made the task of responsible commanders of the Air Force one of extreme difficulty. From his observation he knew that accidents were not attributable to any particular type of machine, or that something was wrong with any station that happened to have a worse record of accidents than others. It was not a fact, speaking of the newer designs, that the older designs were more prone to disaster. He had found no proof of that. But what we knew was the fact that the main cause of accidents in the majority of cases was traceable to the personal equation. What type of man made a great airman? He meant military airman when he spoke of a great airman. We did not want the phlegmatic type or the type that invariably put safety first as its motto. The type that made the pilot was the quick-brained man, the man with great reserve of high nervous power. That was the type of which the Air Force was composed. He had discovered no signs of inefficient training in the Air Force, and he thought the Force was one of the marvels of our time. He thought the staff of the flying units had been cut down too far, but it had not affected accidents. The great majority of accidents happened, as they must happen, from some error, very often a slight error of judgment, on the part of pilots. He asked the House and the Press not to indulge in the type of criticism of our pilots which would only make them introspective and nervy.

SIR A. BURGESS (Aylesbury, U.) urged that greater efforts should be made to ensure that those constructional firms upon which we entirely depended for the welfare of our air services should not be allowed, through lack of support, to go under.

SIR P. SASSOON, Under-Secretary for Air (Hythe), said that quite apart from the Government's earnest desire to see progress made in the direction of general disarmament, they were sincerely anxious to see the limitation of air armaments. Difficult as were the questions by land and sea, the problems of air disarmament were still more so, and especially for us. Great as were the powers for evil which the conquest of the air had placed in the hands of man, it had offered to him many opportunities for good to a far greater degree. The advance of civil aviation was illustrated by the record of Imperial Airways, which in 1926 carried 20,000 passengers and 498 tons, as compared with 14,000 passengers and 454 tons in 1925. The number of aircraft registered in the name of clubs and of private owners was increasing steadily, and at December 31 it had reached 58, so that the outlook in that direction was distinctly encouraging. The University units, which were started a year ago, had diffused keenness for flying throughout the universities, and the amount of flying done by the Cambridge University Squadron last year was equivalent to once round the world.

## Air Minister at Working Men's College

SIR SAMUEL HOARE gave an address on "Aviation in the British Empire" on March 5 before the Working Men's College, Crowndale Road. Sir Frederick Maurice presided, and said that the Air Minister's latest example of his thoroughness in everything he undertook was his inauguration of the air route to India. Sir Samuel Hoare said that if there was to be a great future for civil flying it would have to depend upon a programme of long-distance flights, particularly within the Empire. Short flights offered so little advantage over rail or sea that they were hardly worth taking. One of his objects in flying to India was to show the world that it was possible to make long-distance flights in an ordinary civil machine with the same regularity that was expected of train or ship. This year, he said, they were going to blaze the trail from North Africa over Egypt to Cape Town. One result of this would be to stimulate trade along the old trade routes and bring back some of the civilization enjoyed there in the past.

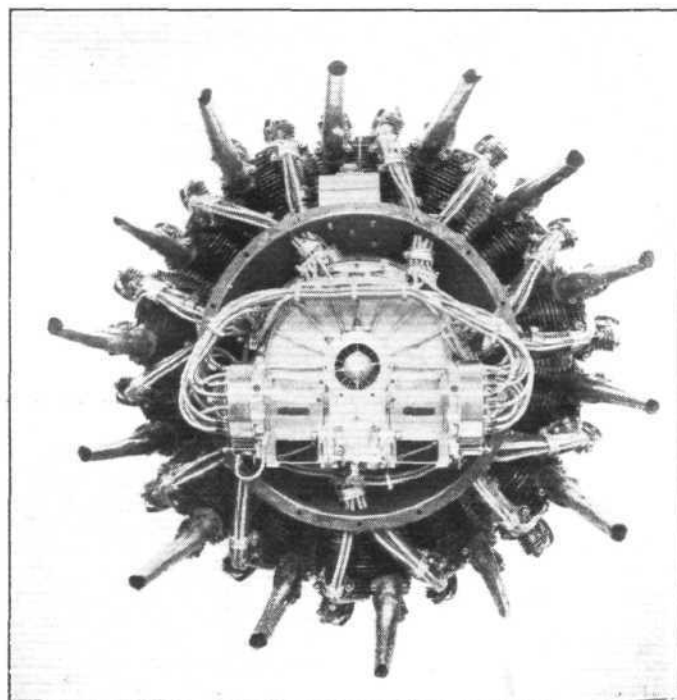
## R.A.F. Golf

At the R.A.F. Golfing Association Winter Meeting at Denham, on February 24, the following results were returned: Scratch Prize: Squadron-Leader C. H. Hayward, 80; Flying Officer Gough, 83; Flight-Lieut. Fawcus, 84. Handicap: First Division.—Flying Officer Gough, 83—2=81; Squadron Leader Hayward, 80+2=82; Group-Capt. Briggs, 92—10=82. Second Division: Flight-Lieut. F. J. Cooke, 94—12=82. Flight-Lieut. Moffatt, 97—12=85. Nine Holes Prize: Squadron-Leader Hayward, 37+1=38; Flying Officer Gough, 40—1=39. Second Division: Flight-Lieut. Moffatt, 45—6=39; Squadron-Leader C. A. B. Allen, 49—10=39.

## R.A.F. Parachute Accident

THE Air Ministry regrets to announce that No. 157816 Corporal Arthur East, A.F.M., of the Home Aircraft Depot, Henlow, was killed at Biggin Hill, Kent, on March 9, whilst carrying out a demonstration parachute jump. He was endeavouring to make a record drop before opening the parachute, but apparently delayed the opening too long. He left the machine at an altitude of about 6,000 ft. and was seen to fall head foremost for most of the way and then somersault. The parachute was seen to partly open just

before he hit the ground. He just missed a valley which descended for 600 ft., and which he had hoped to take advantage of after his long drop. He was an expert parachutist and formed one of the Air Force group who visited the different units to give demonstrations to novices.



A SUPERCHARGED "JAGUAR": This photograph of a recent type of Armstrong-Siddeley engine had been intended for the article on British aero-engines published last week, but reached us too late to be included. It will be observed that the supercharging equipment has not added much in the way of complication to the engine.



# AIRISMS

## FROM THE Four Winds.

### Pinedo's Progress

AFTER a short stay at Buenos Aires—where he arrived on March 2—the Marchese di Pinedo started on the second, or return, stage of his big flight on March 14, when he flew in his Savoia S.55 "Santa Maria" to Montevideo. The next day he proceeded to Asuncion, Paraguay, landing at Parana en route.

### Portuguese World Flight

MAJOR SARAMENTO BEIRES and his three companions made several attempts last week to start on their journey across the Atlantic from Bolama to Port Natal, but weather conditions were against them. In the early hours of March 11, however, they managed to get away, minus one of the party, but the latest report to hand states that their Dornier-Wal "Argus" was forced to descend at one of the Bissagos Islands (Portuguese Guinea).

### U.S. Army Pan-American Flight

THE U.S. Army Pan-American flight round South America is still proceeding in spite of the recent tragedy at Buenos Aires. The three remaining Loening amphibians, under the command of Maj. Dargue, arrived at Rio de Janeiro on March 10.

### American "Mystery" Schneider 'Plane

THERE is a good deal of speculation in aeronautical circles concerning the identity of the American challenger for the Schneider Trophy race, which is to be held at Venice in September. The U.S. Navy has definitely decided not to enter, but at the moment it does not appear settled whether or not the U.S. Army will enter a machine. In the meantime there are those in America who believe that the high-speed machine being built for Al Williams, the U.S. Navy speed pilot, may be entered. This machine, which was designed for a horse-power of 930 b.h.p., was originally intended for contesting the world's landplane high-speed record held by Adjutant Bonnet on a Bernard monoplane with Hispano engine (278 m.p.h.), but it is thought that it may be possible to alter the machine for floats, although at the moment nothing very definite is known. The racer is nearing completion at Garden City, Long Island.

### Khartoum-Kisumu Service Mishap

THE Fairey seaplane lent by the R.A.F. to the North Sea Aerial and General Transport Company for operating their Khartoum-Kisumu service when their first machine, the "Pelican," crashed has now crashed also. When lifting from Lake Victoria, on March 13, with the mails, it alighted again four times, and, finally, the undercarriage collapsed and the machine sank. The pilot, Mr. Boyle, and his mechanic, Mr. Blacklock, were soon taken off by a motor-launch. The machine was recovered, but broke its back when landed, and was irreparably damaged. The mails were saved, but slightly soiled by water. There are no definite plans for the air mail service in the immediate future. Air Vice-Marshal Sir Sefton Branner, Director of Civil Aviation, and Captain T. A. Gladstone left Nairobi for Dares-Salaam, in order to discuss an extension of this service to Urwansa, Victoria Nyanza.

### R.A.F. Australia Flight

THE flight of six "Southampton" flying-boats of the R.A.F. to Australia and the East will be led by Group-Captain H. M. Cave-Brown-Cave next year. They will follow a sea route, and their ultimate destination will be Singapore, where they will remain as the nucleus of the British Air Fleet in the East, working in conjunction with the Australian Air Force. Group-Captain Cave-Brown-Cave has been for some time one of the technical chiefs at the Air Ministry. He entered the Navy in 1907, served in the R.N.A.S., and won the D.S.O. and D.F.C. during the war.

### A New American Atlantic Flight Attempt

LIEUT.-COMMANDER NOEL DAVIS is proposing to fly from New York to Paris next June in a "Pathfinder" machine which has a radius of 4,600 miles. The American Legion is financing the flight, and he is crossing as the advance agent of the American Legion's convention in Paris.

### Imperial "Hercules" No. 5

THE last of the five new Imperial Airways Liners for the Egypt-India service left Croydon on March 10 for Bagdad.

Captain F. L. Barnard was the pilot and he was accompanied by his wife, Mrs. Barnard, Major and Mrs. Mayo, and Captain Leleu, who has gone out to act as a pilot on the new line, and five other passengers. A landing was made at Halfar Aerodrome at 2.30 p.m. on March 12, and at Cairo on March 15.

### A Canadian Air Service

AN air service will be established shortly between Windsor-Montreal-Toronto-Muskoka in Canada. The Mayor of Huntsville, Mr. Rice, will make the first trip, which will take a direct course from Huntsville along the east side of Lake Simcoe and the Canadian National Railway lines. It is hoped that it will be well patronised by Toronto and other Ontario residents during the summer.

### Air Ports in Canada

ACCORDING to the replies received by the Royal Canadian Air Force to inquiries sent to various municipalities regarding the establishment of air ports, it seems that the majority of Canadian cities show considerable interest in the matter. An officer of the R.C.A.F. will be detailed to visit the cities interested this summer, and will advise the local authorities on the selection of municipal sites for air ports.

### An Aerodrome for Hong-Kong

AN aerodrome is being erected at Hong-Kong, and the Governor, at an Engineers' Institute dinner, prophesied a passenger service between Hong-Kong and Chinese cities. At the moment it is in the nature of temporary sheds being erected by the Royal Air Force, but later permanent sheds will take their place for civil use.

### Mr. Robert Blackburn Honoured

THE Greek Government has conferred the Golden Cross of the Order of the Redeemer upon Mr. Robert Blackburn, the head of the Blackburn Aeroplane Company, Leeds, for his services to aviation in Greece. He has established a factory at Phaleron, and manufactures machines for the Greek Government.

### Mr. Roy Chadwick

HIS many friends will be glad to learn that Mr. Roy Chadwick is making satisfactory progress towards recovery, although it will probably be some time before his arm will be "passed by A.I.D."

### A Very Airy Air Force

TODAY, March 17, has been set aside for the report stage of the Air Estimates, when Mr. Ponsonby and other Labour members will move the reduction of the Air Force from 33,000 to 1,000 men.

### Seville-Buenos Aires Airship Service

IN our issue of February 24 we referred in some detail to the proposed airship service across the South Atlantic starting from Seville in Spain. Herr Eckener and Herr Wertz of the Zeppelin Company, have now arrived at Seville in the capacity of advisers to the Colon Compania Transaera, which has secured the concession for the future service. It now seems certain that the first trial voyage will be made next January with the airship L.Z.127, which is being constructed at Friedrichshafen, and which will be piloted by Herr Eckener. The vessel will be hired by the Colon Company.

### Swimming Baths in Air Liners

APROPOS a recent article in the daily press by Mr. A. V. Roe on "Air Liners of the Future," it has been pointed out to us by Mr. A. V. Roe that many absurd statements—regarding swimming baths, etc.—appeared in it which he had corrected before publication, and thought would not appear; but unfortunately the journalist's version was published and not Mr. A. V. Roe's!

### Lufthansa Reduce Fares

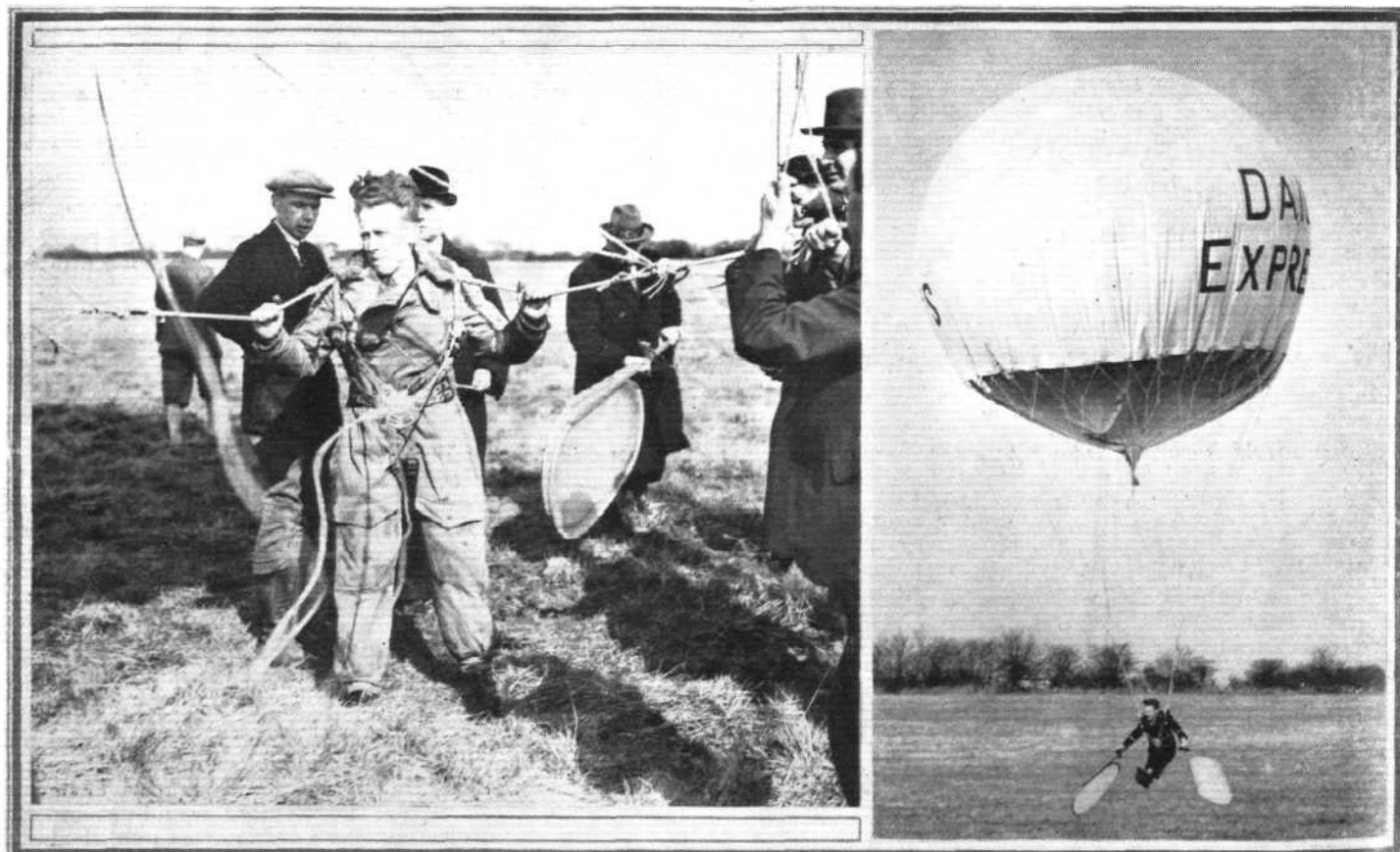
THE German air combine, Lufthansa, are reducing the fare on their London-Amsterdam service from £4 to £3 early next month when the summer services begin. This will then be the cheapest air fare to the Continent and be cheaper than the first-class rail and sea fares to Amsterdam, working out at 2½d. per mile. Seven years ago when this service was started, the fare was £10, which was reduced to £4 by the Daimler Company when they introduced their D.H. machines on a service to Amsterdam in the end of 1922. At this figure it has remained up to date. There are now no British lines between London and Amsterdam.

# THE URUGUAYAN AIRMEN'S ADVENTURE

THE adventure that has befallen the four gallant Uruguayan airmen has revealed that the romantic spice in aviation is by no means at an end. Their exciting story even caused Paris newspapers to send their correspondents by air to the Spanish Sahara Coast. In our issue for February 24 we gave primary particulars of Commandant Larre-Borges' intended Transatlantic flight in the Dornier-Wal flying-boat called the "Uruguay." On March 2 it left Casablanca in perfect weather for the Canary Islands, which was the second stage of the flight from Malaga to Montevideo, but failed to arrive, and it was thought the Canary Islands had been missed owing to clouds. A search was carried out down the Atlantic coast by the French naval dispatch vessels, "Vanneau" and "Forfait," the Spanish gunboat, "Bonifaz," and also Portuguese vessels. Major Sarmiento Beires, who was also waiting at Casablanca for a favourable chance to cross the South Atlantic in the course of his world flight, flew down the coast as far as Rio de Oro but without discovering any sign of his less fortunate brother airmen. Considering the importance of his own mission, it was meritorious on his part to risk his machine.

What happened to Commandant Larre-Borges and his companions was as follows:—After four hours' flight out of Casablanca, a broken oil pipe was discovered by the mechanic Rigoli, and a forced landing was found imperative despite a heavy sea, which was made between two huge rollers. For a while the seaplane rode the waves, then three successive waves struck it heavily and smashed the hull. The engine units were displaced, and a drift seaward followed from the coast, which was then half-a-mile away. After a keen struggle to keep the machine buoyant and direct it inland, the crew's efforts were finally defeated by a larger wave, which completed the destruction and threw them into the sea. After a desperate struggle for half-an-hour, in which their heavy clothes were a great handicap, they were swept on to the beach, together with the wreckage of the seaplane.

Scarcely had they survived this danger when a large band of Moors appeared from the surrounding dunes, most unexpectedly, and made them captives. They were stripped of their clothing and effects, and even the linings of their coats were slit and the soles severed from their shoes to satisfy their captors' greed for all they possessed. The booty was divided, and accordingly the chief kept the bank notes and coins, whilst his followers generously received certain cheques for large nominal amounts, but of doubtful negotiable value. The chief was immensely pleased with a pair of silk pyjamas, with which he adorned himself to preside at the distribution of the spoils. Even the wrecked seaplane was rifled and stripped. The captives were then marched inland on a long journey, sharing the doubtful comforts of pedestrianism and camel-riding, and reached the native village of Puerto Cansado. The first step towards their release was the dispatching of an emissary to the Spanish post of Cape Juby, some seventy miles south, by the Moorish chief. Meanwhile a search for the missing airmen was being carried out by two Latécoère aeroplanes piloted by MM. Mermoz and Ville, who, whilst making their customary flight with the mail from Dakar to Casablanca, had been informed by wireless of the disappearance of the "Uruguay." Flying very low along the coast they spotted the wreck, and made their report at their next landing place, when the local aerodrome superintendent there, on his own responsibility, immediately wirelessed to Cape Juby for the two machines stationed there to continue the search. MM. Riguel and Guillaumet set off, circled the wreck to make sure that no Moors lurked in the dunes, and then landed and left their engines running while they examined the wreck. Forming the impression that the missing crew were being taken into the interior, they set out again to make a reconnaissance, and very soon sighted the caravan moving across the desert; but as they flew low to detect the missing crew the Moors opened a fusillade of shots, and they were consequently unable to



["FLIGHT" Photographs]

**THE NEW SPORT :** The first experiments at Stag Lane with "balloon-jumping" unfortunately ended in disaster. Aircraftsman Dobbs being drifted by the wind against an electric cable and electrocuted. The mishap was not of course, directly due to the nature of the new sport, and was a regrettable accident of a kind never likely to happen again. It would seem, however, that before the sport can become popular it will be necessary to ensure a closer and more rigid connection between the man and the balloon, so that when a jump is made the balloon is given an initial upward push, instead of, as at present, merely being relieved of the man's weight. The photograph on the left shows the type of harness used, and on the right a short jump. The balloon, on this occasion, was insufficiently buoyant. The "paddles" were intended to give a certain amount of manoeuvrability, but, as might have been expected, were a failure. A previous reference to Balloon Jumping was made in "Flight" for January 27 last.



confirm their impression. Actually this was the caravan they sought, but the Moors had camouflaged their prisoners with sacks and brushwood on the approach of the 'planes.

After a week had passed, the Latécoère pilots were set the hazardous task, on March 9, of taking an emissary of the Spanish Commandant at Cape Juby to descend with him at Puerto Cansado, where he was charged to negotiate with the Moors for the release of the prisoners. The pilots, MM. Reine and Antoine, landed near the tribesmen's tents and were received with a lively fusillade. After the emissary had alighted, they took off again, and performed a series of stunts over the Moorish heads and returned to their aerodrome. The next day they returned to learn the result of the conference.

A landing was made, and the gallant airmen were dis-

covered safe, but in a very sad plight. The Moors crowded round the machines, evidently torn between keeping their given promise and the temptation to improve on the bargain, if possible, by repeating their exploit with the two French aeroplanes. Very wisely, the pilots wasted no time with compliments, and quickly ascended with their rescued comrades, and arrived with them at Cape Juby. Some rather quaint-fitting Spanish uniforms were here supplied them. Another Latécoère aeroplane, with a Paris newspaper correspondent on board, on its way to Cape Juby, a few hours later, descended low over the Moorish village, quite unaware that the prisoners had been released a little earlier, and they were met with a fusillade from the tribesmen. It is reported that Commandante Larre-Borges may attempt another effort to cross the Atlantic later on.

## ◇   ◇   ◇ LIGHT 'PLANE CLUB DOINGS

### London Aeroplane Club

FLYING was resumed for the first time during the month on Thursday, March 10, and the total flying time for the four days ending 13th inst. was 42 hrs. 30 mins.

Pilot instructors.—Capt. F. G. M. Sparks, Capt. A. S. White, Capt. C. D. Barnard.

Dual instruction.—L. W. Gibbens, G. H. Saxon Mills, G. H. Swan, A. J. Mulder, R. Drysdale Smith, E. R. Wilson, H. Solomon, H. Greenland, J. G. Crammond, J. J. Hofer, D. Hewett, E. F. Symmonds, R. Leighton Crawford, R. P. Cooper, R. Sanders Clark, G. M. Randall, H. M. Samuelson, H. O. Guggenheim, D. H. P. Esler, E. G. Meisegaes, G. C. Bonner, F. W. R. Martino, F. C. Clarkson, E. J. B. King, Miss Fletcher, Maj. K. M. Beaumont, G. H. Craig.

Solo flying.—Capt. H. Spooner, O. J. Tapper, N. Jones, A. F. Wallace, G. H. Craig, Maj. K. M. Beaumont, L. J. C. Mitchell, A. R. Ogston, G. Terrell, M. L. Bramson, D. H. P. Esler, R. C. Presland, G. Eady, Miss O'Brien, Squad-Leader M. E. A. Wright, Lady Bailey, N. J. Hulbert, C. R. Campkin, S. O. Bradshaw, H. Solomon.

Passenger flights.—A. J. Wilson, E. J. M. Bird, W. C. P. Tapper, G. H. Weston, D. A. Wilson, E. R. Wilson, G. W. Tapper.

Annual dance.—Members are reminded that the annual dance of the London Aeroplane Club will be held at the Spring Garden Gallery, Spring Gardens, Trafalgar Square, S.W.1, on Tuesday, March 22, 9 p.m. to 1 a.m. The proceeds of the dance will be devoted to the social amenities of the club at Stag Lane aerodrome, and it is therefore hoped that all members will support the dance by coming themselves and bringing their friends. Tickets: Single, 12s. 6d.; double (lady and gentleman), £1 1s.

Tickets may be obtained from Capt. F. G. M. Sparks, Stag Lane Aerodrome, Edgware, Middlesex; Mrs. Woods-Humphrey, 14, Elvaston Place, S.W.7, or at the registered offices of the club, 3, Clifford Street, London, W.1.

### The Hampshire Aeroplane Club

REPORT for week ending March 11:—Capt. Thomson, still being at Brough for his reserve training, no instruction has taken place, but the following members flew solo: Señor de la Cierva, 1 hr. 35 mins.; S. Fry, 30 mins.; McKechnie, 22 mins.; K. P. L. Bowen, 5 mins.; and O. E. Simmonds, 5 mins. Total solo time, 2 hrs. 37 mins.

The committee is pleased to be able to announce that the following gentlemen have now accepted invitations to become vice-presidents of the club:—Lieut.-Colonel Ormonde Derby, Mr. T. O. M. Sopwith, Mr. C. R. Fairey, and Mr. G. Dawson.

A supper dance has been arranged to take place at the Barova Restaurant, Southampton, on Thursday, March 24, and tickets may be obtained upon application to the secretary of the club at Hamble.

### Lancashire Aero Club

REPORT for week ending March 12.—Total flying time for the week, 22 hrs. 35 mins., made up as follows:—

Dual, with Mr. Brown: Messrs. Musgrave, 2 hrs. 5 mins.; Caldecott, 1 hr. 20 mins.; Nelson, 45 mins.; Dobson, 35 mins.; Miss Brown, 30 mins.; Messrs. Dickinson, Davidson and Shiers, 30 mins. each; Miss Emery, 25 mins.; Messrs. Stonex, 25 mins.; Michelson and Cohen, 20 mins. each; Rodman, 15 mins.; Goodyear and Forshaw, 10 mins. each.

Dual, with Mr. Cantrill: Messrs. Caldecott, 45 mins.; Forshaw, 15 mins.; Miss Brown, 20 mins.

Solo: Messrs. Twemlow, 1 hr. 45 mins.; Miss Brown, 40 mins.; Dr. Wade, 40 mins.; Gattrell, 40 mins.; Costa, 20 mins.; Lacayo, 20 mins.; Cantrill, 15 mins.; Dickinson, 5 mins.

Joy-rides.—With Mr. Brown: Mr. Murrell, 1 hr. 20 min. (photography); Miss Branton, 30 mins.; Mr. Spruce, 10 mins. With Mr. Costa: Miss Hobson, 35 mins.; Mr. Johnson, 30 mins.; Mr. Belliano, 20 mins. With Mr. Cantrill: Mr. Fallon, 45 mins.; Mr. Thomas, 10 mins. With Mr. Leeming: Mr. Nelson, 30 mins. With Mr. Goodfellow: Miss Bodenham, 25 mins. With Mr. Lacayo: Mr. Hartley, 25 mins. Test flights, 2 hrs.

Weather has been patchy, a good deal of rain and wind, with bright intervals. Mr. Dickinson has put his first solo safely behind him.

A vast improvement in the amenities of the club-house was noticeable at the week-end under the new management of Signor Musso-Leeming. The new bar was excellent, while light refreshments were so exceedingly cheap that our Scottish member is reported as having seriously over-eaten himself and is lying in a critical condition.

There will be another mixed hot-pot and what-not at the Manchester, Ltd., on the evening of April 1. Further particulars later, but kindly book the date now.

### TL. Midland Aero Club, Ltd.

REPORT for week ending March 12.—The total flying time was 7 hrs. 28 mins.

The following members were given dual instruction with Capt. McDonough, E. A. Lane, S. N. Smith, F. Coxhill, C. Fellowes, J. Brinton, R. L. Jackson, H. Coleman.

The following "A" pilots made solo flights: J. Brinton, E. R. King, G. Perry.

A. Ellison was given a passenger flight.

The club has recently furnished a club room at the aerodrome, and this is now available for members.

### The Newcastle-upon-Tyne Aero Club

REPORT for week ending March 13.—The club has still only one machine on service, but in spite of a considerable amount of bad weather, a fair amount of flying was put in during the week.

Total flying time, 19 hrs. 50 mins. Dual instruction, 5 hrs. 5 mins.; solo (training), 11 hrs.; "A" pilots, 3 hrs. 40 mins.

The following flew under instruction with Mr. Parkinson: Mrs. Heslop, Sir Joseph Reed, Messrs. Stawart, Wilson, Rasmussen, Turnbull, Bainbridge. Advanced dual, Mr. R. N. Thompson.

Solo (training): Miss Leathart, Sir Joseph Reed, Messrs. Stawart, Bainbridge, Mathews, Turnbull.

"A" pilots: Dr. Dixon with Mr. Howard, Mr. Mathews and Mr. Purves, Mr. C. Thompson with Mrs. Heslop, Mr. Bertram and Mr. Luckman. Mr. R. N. Thompson also flew on several occasions.

Col. Sir Joseph Reed, the President of the club, flew solo for the first time on Monday, putting up a very good flight and landing. Sir Joseph flew solo on subsequent occasions. It is believed that the club holds the record among clubs in having a flying President, or at any rate a soloist. Sir Joseph has persevered, and in spite of the fact that his many business activities do not allow of flying regularly, he has "got off" very quickly.

On Wednesday, after waiting patiently for about two months for a day suitable for height tests, Miss C. R. Leathart carried out the necessary tests for a pilot's licence. Though there have been days when tests were possible, Miss Leathart has not been able to attend the aerodrome, and on Wednesday she was unable to be there until late afternoon, and by the time the official observer who represents the Royal Aero Club arrived, it was after 5 o'clock, though the weather was fine and bright with a brilliant sun. Very shortly after Miss Leathart took off, however, it began to cloud over and became very dark. She continued to climb until the necessary height was obtained, but by this time those on the aerodrome became really alarmed in case it was too dark for her landing. Flares were lit and car lights directed across the aerodrome. Miss Leathart came in and made a perfect three-point landing, finishing the run within 20 yards of the point decided upon, and quite surprised to learn that anyone was perturbed about the matter. She certainly was not. Miss Leathart is the club's first lady member to pass her tests.

### The Yorkshire Aeroplane Club

REPORT for the week ending March 13.—Total flying time for the week, 6 hrs. 55 mins., made up of: solo, 4 hrs. 55 mins.; dual instruction, 2 hrs. 15 mins.; pleasure flying, 35 mins.; tests, nil.

Messrs. Mann, M. B. Lax, Wood and Norway flew solo, and Messrs. Wilson Oglesby and R. K. Lax received dual instruction.

On Wednesday, Capt. West and Mr. Lax flew over to Brough, again with the intention of bringing back the "Avro" offered for the use of the club by the North Sea Co. Unfortunately, another hitch occurred and they were unable to bring it back. Mr. Lax flew back to Sherburn alone in the "Moth."

Two more prospective members were given pleasure flights of 10 mins. each on Tuesday, Mr. Ottolini by Capt. West, and on Wednesday, Mr. Yeomans by Mr. Mann.

On Saturday afternoon Capt. Lamplugh of the British Aviation Insurance Group paid a visit to the aerodrome to discuss insurance and other matters with the directors.

### The Norfolk and Norwich Aero Club

THE first meeting of the provisional Committee of the Norfolk and Norwich Aero Club has been held, and amongst other decisions arrived at are the following:—

(1) The membership fee will be £3 3s. per annum. The first 250 members will be called the "Foundation Members" and as such will pay no entrance fee. Applications should be sent in at once to Mr. R. O. Clark, who has kindly undertaken (jointly with Mr. Geoffrey Holmes) the duties of Honorary Secretary to the Committee for the time being.

(2) The cost of flying will be approximately £1 10s. per hour for instruction and £1 per hour solo.

(3) The Committee hope to have a Club-house at the Aerodrome.

(4) The Committee are endeavouring to push forward arrangements so that a commencement can be made in the Spring.

(5) A badge of membership is under consideration, and in due course particulars will be sent to the members.

The whole of the above arrangements are provisional and subject to confirmation at a meeting of members which will shortly be held.

Cheques sent for membership fees should be made payable to the "Norfolk and Norwich Aero Club" and crossed Barclays Bank.

Enquiries should be directed to the Honorary Secretary pro. tem. Mr. R. O. Clark, 2a, Upper King Street, Norwich.

### The Western Australian Light Aeroplane Club

WE have received the following communication from the Hon. Secretary of the Western Australian Light Aeroplane Club:—

"I have pleasure in advising that Western Australia has just established a Light Aeroplane Club, but whilst possessing plenty of enthusiasm we are somewhat lacking in information. Hence this letter, which we would greatly appreciate your bringing before members of the light aeroplane clubs of Great Britain through your valuable columns in the hope that some members may be generous enough to get in touch with us and share the experience and knowledge which has been gained since the inception of the light 'plane movement."

"It is quite unnecessary for me to stress the appreciation with which such help would be received by us at this stage."

"Thanking you in anticipation, and with best wishes to FLIGHT, which is well and favourably known here."

The Hon. Secretary's address is:—c/o The Western Australian Bank, Perth, W.A.

# SERVICES RUGBY TOURNAMENT

## Royal Navy v. Army

THIS match was played at Twickenham on Saturday, March 5, and resulted in a win for the Navy by two tries (6 points) to one try (3 points). All who follow the fortunes of the Royal Air Force Rugby XV through the services tournament must be interested in the match between the Army and the Navy. The Navy has beaten the R.A.F. by a goal and a try to a try. The Army has yet to meet the R.A.F. on March 26. From the struggle between the service which has beaten the R.A.F. and the service which has yet to play it, the R.A.F. Rugby enthusiast will gain hope or the reverse about the last match of the series.

In the first place, March 5 match upset expectations. On paper the Army seemed the strongest team of the three, and was held by the prophets almost certain to come out as champions. Opinions varied as to whether the Navy or the R.A.F. would win second place. Now the Navy have won the championship, but the prospects for second place are interestingly doubtful.

We must try to account for the Army's downfall. In the first place Lieut. Sir T. Devitt and A. R. Aslett, English internationals, were not playing in the Army three-quarter line. Still that left the Army with four internationals to three on the side of the Navy, the Navy having Sellar, Eyres and Luddington, all of England, and the Army playing Young and Faithfull of England, and McVicker and Browne of Ireland. Even as it was, the Army three-quarters might have won the match, but they failed to do so, and the Navy forwards actually did win it. Now the Navy's forwards were mainly responsible for snatching a narrow victory over the R.A.F., so the R.A.F. ought to be able to carry the scrums against the Army, and should also have the best of it in forward rushes. At the base of the scrum Russell should be able to look after the dangerous Arthur Young quite as well as G. P. S. Davies did in the last match, and Davies made quite a good job of it. At three-quarters we come to a big query. If the Army three-quarters will pass with reasonable accuracy they are a very dangerous line, even without Devitt. It is true that the R.A.F. three-quarters have shown themselves to be stern tacklers. But so have the Navy three-quarters. Yet in the match under review over and over again the Army three-quarters looked as if they ought to score and were going to score, and on every occasion but one it was their own faults in passing rather than any merit in the Navy's defence which prevented a score. On the 26th the R.A.F. three-quarters must come on to the field prepared to tackle as they have never tackled before. One cannot reckon on the Army passing being always as erratic as it was on March 5. At one time for a short period they seemed to have arrived at an understanding among themselves, and then with one beautiful combined

movement they treated the Navy's defence as if it was not, and scored a try which was a joy to watch. But they fell away again from merit, even before the rain came on and excused all mistakes in handling. What will be their mood on the 26th?

The game started with a dribbling rush of the Navy forwards, but a free kick to the Army drove back the attack. The Navy got the ball out of a scrum and opened up an attack to the right. Kennedy all but got clear, but Cass tackled him well. Cass is not, perhaps, a brilliant full back, but he is a very sound one; and in this match he came out with rather more credit than Sellar. For one thing, the Army did not make the mistake which cost the R.A.F. so dear—namely, that of constantly kicking into Sellar's hands. Play in mid-field followed, and Young got the ball out to the Army three-quarters, but they fumbled and dropped it, and let the Navy rush up to their 25 line. There Sladen, the Navy's fly-half, broke through with a fine dodging run and passed out to George, who scored a try in the left corner, as shown in the illustration. The place kick failed.

Soon after the restart Young distinguished himself by slinging a pass, not to his own side, but into a Navy player's hands. But the tables were quickly turned, and the Army got the ball out to Palmer on the right wing. Palmer, who played as good a game as any three-quarter on the field, ran right up to Sellar, and then jinked clean past him. Seldom can an international full back have been treated with such scant courtesy by a player of lesser note. But, though the goal line lay open before him, Palmer lacked the pace to get there. He had to pass to Tucker, and Tucker passed forward to some one else, and the Army lost their chance. A little later Young got away by himself, but the pass he gave was dropped. And a minute later a third Army mistake provoked the Goddess of Fortune past endurance. Again Young sent the ball out from the scrum, and again his three-quarters fumbled their passes and dropped the ball. The Navy forwards dashed on to it, dribbled up to the line, and Harry scored a second try. Again the kick failed.

Then the Army had a spell of attacking, but just when we had come to believe that their three-quarters could never give and take a pass correctly, they suddenly burst into unexpected brilliance. Young opened up to the left, and the ball travelled accurately along the line. Maxwell—hitherto, perhaps, the most butter-fingered of all—brilliantly broke past Lee and made the running. Bryan, however, had a fair distance to go, and he safely crossed the line for a try which deserved every whit of the uproarious applause which it evoked. Again the kick failed.

There was no other score. The Navy forwards more and more dominated the game with their concerted rushes.



AN "ACTION PICTURE" FROM THE NAVY v. ARMY MATCH: The Navy score their first try.



Then the rain came on, and after that accurate passing became practically impossible. The game now lay with the dominant forwards, and that meant the Navy. Yet, even so, every now and again the Army three-quarters looked dangerous, and several times a score seemed probable. Had they and Young been able to refrain from forward passes and to hold a wringing-wet ball better than they could hold a rather greasy one, they might yet have pulled the game out of the fire. But had they done so it would have been distinctly hard luck on the Navy. The latter deserved to win, and the Army did not.

Let us hope that on the 26th fortune will again favour the deserving, and may it be the R.A.F. which merits victory.

#### THE TEAMS

Royal Navy:—*Full back*: Sub.-Lieut. K. A. Sellar.\* *Three-quarters*: right wing, Sub.-Lieut. N. Kennedy; right centre, Sub.-Lieut. T. S. Lee; left centre, E.R.A. A. George;

left wing, Lieut. W. H. Wood. *Half-backs*: stand-off, Sub.-Lieut. G. M. Sladen; scrum, Sub.-Lieut. G. P. S. Davies. *Forwards*: Able Seaman W. Paddon, M.A.A. W. G. E. Luddington,\* Lieut. T. G. P. Crick, E.R.A. E. H. Harding, Sub.-Lieut. J. W. Linton, Lieut. R. C. Harry, Lieut.-Comdr. W. C. T. Eyres (Capt.),\* Surgeon-Lieut. L. B. Osborne.

The Army:—*Full back*: Lieut. E. E. E. Cass. *Three-quarters*: left wing, Lieut. G. J. Bryan; left centre, Lieut. R. B. Maxwell; right centre, Lieut. J. L. Proudlock; right wing, Lieut. G. V. Palmer. *Half-backs*: stand-off, Capt. B. H. G. Tucker (Capt.); scrum, Lieut. A. T. Young.\* *Forwards*: Lieut. E. P. Sewell, Sergt. D. Jones, Lieut. C. K. T. Faithfull,\* Sergt. W. Thomas, Lieut. H. McVicker,\* Capt. J. A. Ross, Lieut. W. F. Browne,\* Lieut. G. B. Macnamara.

F. A. DE V. R.

\* International.

# THE ROYAL AIR FORCE

London Gazette, March 8, 1927.

#### General Duties Branch

The follg. Pilot Officers are promoted to rank of Flying Officer:—D. S. E. Vines (Nov. 14, 1926); T. E. Worsley (Jan. 30); P. G. Tweedie (Feb. 7); D. S. Thomas, J. D. Greaves, A. V. Harvey (Feb. 18). The follg. Squadron Leaders are placed on half-pay, scale B:—R. T. Leather, A.F.C., from March 9 to 18, 1927, inclusive; W. H. Park, M.C., D.F.C., from March 2 to 5, 1927, inclusive. Flying Officer D. Robinson (Lt. Glos. Regt., T.A.) takes rank and precedence as if his appointment as a Flying Officer bore date May 15, 1926, immediately below Flying Officer E. B. C. Groner on the gradation list. Reduction takes place from Dec. 27, 1926.

The follg. Flying Officers are placed on retired list:—J. B. V. Glyde (March 6); H. H. S. Scott, D.S.M. (March 5). The follg. Flying Officers are transferred to Reserve, Class A:—W. A. Chase (March 7); A. H. C. Derby (March 9). Flying Officer (hon. Flight. Lieut.) R. H. S. Peter (Lieut., R.N., retd.) resigns his short service commission (March 1).

#### Stores Branch

Pilot Officer on probation H. N. Daves is confirmed in rank (Dec. 24, 1926).

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

#### General Duties Branch

*Wing Commanders*: C. F. A. Portal, D.S.O., M.C., to No. 7 Sqdn., Bircham Newton, 1.3.27, to command with effect from 19.4.27. G. C. St. P. de Dombasle, O.B.E., to R.A.F. Depot, Uxbridge; 15.2.27. E. R. Manning, D.S.O., M.C., to R.A.F. Station, Northolt, to command; 15.2.27. A. Corbett-Wilson, to R.A.F. Depot, Uxbridge, Supernumerary, pending posting on transfer to Home Estab.; 11.3.27.

*Squadron Leaders*: W. B. Hargrave, C.B.E., to No. 99 Sqdn., Bircham Newton; 7.3.27. V. S. E. Lindop, to No. 208 Sqdn., Egypt, 26.2.27. J. K. Summers, M.C., to No. 47 Sqdn., Egypt, 14.2.27.

*Flight Lieut.*: A. W. Symington, M.C., to No. 1 Sch. of Tech. Training (Apprentices), Halton; 14.3.27. C. F. Toogood, to No. 7 Sqdn., Bircham Newton, 1.3.27. T. Henderson, M.C., A.F.C., to No. 4 Armoured Car Company, Iraq; 22.2.27. K. E. Ward, to No. 2 Armoured Car Company, and Repair Section, Palestine; 22.2.27.

*Flying Officers*: N. A. P. Pritchett, to No. 43 Sqdn., Tangmere; 1.3.27. E. S. Burns, to R.A.F. Training Base, Leuchars; 25.1.27. W. E. Johns, to H.Q., Air Defence of Great Britain, Uxbridge; 15.3.27. G. A. Elliot, M.C., to No. 208 Sqdn., Egypt; 20.1.27. J. S. L. Adams, to No. 47 Sqdn., Egypt; 21.2.27. G. M. E. Shaw, to No. 216 Sqdn., Egypt; 14.2.27. H. A. Evans-Evans, to No. 2 Armoured Car Company, and Repair Section, Palestine; 21.2.27.

*Pilot Officers*: J. G. Foreman and E. H. Irving, to No. 100 Sqdn., Spittlegate; 7.3.27. G. Selk and C. H. A. Colman, to No. 32 Sqdn., Kenley; 7.3.27. L. C. L. Murray, F. Townsend and A. A. Koch, to No. 4 Sqdn., Farnborough; 7.3.27. G. M. Beattie, to No. 14 Sqdn., Palestine; 23.2.27.

#### Medical Branch

Flight. Lieut. T. McClukin, M.B., D.P.H., is promoted to rank of Squadron Leader (March 3).

#### Memorandum

Sec. Lieut. W. Fillery is deprived of permission to retain rank on conviction by the Civil Power (Feb. 1).

#### Reserve of Air Force Officers

Pilot Officer M. E. de L. Hayes is promoted to rank of Flying Officer (Dec. 7, 1926). (Substituted for *Gazette*, Feb. 25, 1927.) Pilot Officer V. P. Field is confirmed in rank (March 7), Flight. Lieut. F. J. A. Burke is transferred from Class A to Class C (March 3). The follg. relinquish their commissions on completion of service:—Flying Officer R. M. H. Young (Feb. 19); Flying Officer J. E. L. Skelton, Flying Officer G. M. Stephenson, Pilot Officer G. O. Wood (March 4).

Pilot Officer on probation Stanley Armitage is removed from the Service (Feb. 25).

#### Stores Branch

*Squadron Leaders*: F. Petch, O.B.E., to No. 22 Group, H.Q., Farnborough, on transfer to Home Estab.; 25.2.27. E. M. Cashmore, to No. 23 Group, H.Q., Grantham; 7.3.27.

*Flight Lieut.*: R. A. Young, to H.Q., Spec. Reserve and Auxiliary Air Force; 7.3.27.

*Flying Officer* A. J. Redman, D.F.C. to R.A.F. Depot, Uxbridge; 28.1.27.

#### Medical Branch

*Squadron Leader* A. J. Brown, D.S.O., to H.Q., Egypt; 4.3.27.

*Flight Lieut.* C. A. Lindup, to H.Q., Air Defence of Great Britain, Uxbridge; 15.3.27.

*Flying Officers*: A. L. St. A. McClosky to Research Lab. and Med. Officers' Sch. of Instruction; 2.3.27. R. Thorpe, to Research Lab. and Med. Officers' Sch. of Instruction on appointment to a Short Service Commn.; 2.3.27. G. E. Church, M.B., to R.A.F. Hospital, Halton; 11.3.27. R. A. W. Kerr, to No. 2 Flying Training Sch., Digby; 11.3.27. M. D. Rawkins, M.B., to R.A.F. Hospital, Halton; 11.3.27.

*Flying Officer (Dental)* P. M. Margand, to R.A.F. Depot, Uxbridge, on appointment to a Temp. Commn.; 1.3.27.

#### Chaplains Branch

Rev. P. C. C. Lamb, M.A., to H.Q., Halton; 18.2.27.

## NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—*Lieuts. (Flying Officers, R.A.F.)*: C. L. Keighley-Peach, to *Eagle*, and for full flying duties in 402 Flight; and W. S. Lea, to *Eagle*, and for deck-landing training in 423 Flight; Feb. 15.

## R.A.F. CO-OPERATION FLIGHT IN AFRICA

THE African flight by combined squadrons of the R.A.F. and South African Air Force, referred to by Sir Samuel Hoare in his Estimates speech, will be commanded by Air-Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., Chief Staff Officer in the Middle East, with whom will be Squadron-Leader R. S. Maxwell, O.C., of No. 47 Squadron, Helwan, and Flight-Lieut. S. D. Macdonald and Flying Officer D. L. G. Bett, also of that squadron. The navigator will be Flight-Lieut. D. J. Blackford, of No. 47 Squadron, Middle East. Two sergeant fitters and one L.A.C. fitter will also accompany them. The machines chosen are four Fairey III F's. Leaving Heliopolis on March 30, the R.A.F. Flight will arrive at Khartoum on March 31; Malakal, April 2; Mongalla, April 3; Kisumu, April 4. Here they will meet with the South Africans arriving from Cape Town on D.H.9's. On April 5 the combined squadrons will leave for Nairobi where three days will be spent in co-operation with the manoeuvres of the 3rd King's African Rifles. On April 10 they will reach Tabora; Abercorn on April 11;

'Ndola on April 12; Livingstone on the 14th; Buluwayo the 15th; Pretoria, 16th. This will complete the first part of the flight.

The R.A.F. will continue alone to Bloemfontein on the 19th; Cape Town on the 20th, where they will stay until the 25th. Then they will proceed to Grahamstown to meet with the South Africans, where exercises will be carried out with the Union ground forces. On April 29 all will arrive at Durban and return to Pretoria on May 2. The R.A.F. will stay here until May 8 and commence on their return flight to the north. This schedule will be: Buluwayo, May 9; Livingstone, May 10; 'Ndola, May 11; Abercorn, May 12; Tabora, May 13. Here co-operation with the 2nd King's African Rifles will take place on May 14. On the 15th Kisumu will be reached; Mongalla, May 17; Malakal, May 18; Khartoum, May 19; Wady Halfa, May 21; Heliopolis, May 22. It is thought that the leader of the S.A.A.F. flight will be Sir P. Van Ryneveld.

## INSTITUTION OF AERONAUTICAL ENGINEERS HOUSE DINNER

At the monthly house dinner of the Institution of Aeronautical Engineers on March 4, the chairman, Mr. L. A. Wingfield, announced that Capt. F. Courtney, the test pilot, was still suffering the effects of his recent crash in the "Autogiro" and was unable to attend to speak on "Aeronautical Engineering." Mr. M. L. Bramson kindly acted as a substitute and spoke on his "Anti-Stall Gear." Before he commenced, the chairman made reference to the amalgamation of the I.Ae.E. with the R.Ae.S. and gave the proposals attending that agreement.

Mr. Bramson then outlined his invention for the prevention of stalling in aeroplanes, with which FLIGHT readers are now familiar. In a subsequent discussion Capt. Barnard advocated the production of machines that would embody the many devices that existed for the safety of aircraft.

Capt. Sayers found objection to any device stuck on a machine which only made extra weight and did not help in the actual flying of the machine. He thought a machine should embody all characteristics in its design to deal with such troubles like stalling, or one should be designed that refused to stall. He mentioned M. Fokker's machine as an example of approaching this latter perfection.

Flight-Lieut. Reid thought that any controversy on the merits or demerits of any safety device should be judged by statistics. Weight, of course, was the main consideration when producing any new idea. He observed that aeronautical engineering must eventually prove to be the most important branch of engineering, as it was concerned with three-dimensional figures.

The secretary, Mr. N. J. Hulbert, asked what progress the Anti-Stall gear was making in the market, and observed that it seemed to be very popular in France.

In replying to the various points raised in the discussion, Mr. Bramson remarked that any new device was essentially unpopular because it tended to increase complication, but in this instance of the Anti-Stall gear he thought that the psychological problem survived the mechanical one; that was to say, the necessity of making known to the pilot by the most practical method the fact that he was stalling. It had been a question of appealing to his senses and discovering which, under the circumstances, was the most susceptible. He did not think there would ever be a machine which would not stall. He admitted that different methods aspired with varying success to that end. But without anti-stall gear what means were available to reveal a stall? The air-speed indicator did not tell how near a stall the machine was in some circumstances. For instance, in a safe glide with the engine shut down, if the stick was pulled back there was a slowing down of speed, but the indicator would be quite reassuring for some moments. Mr. Bramson mentioned, in conclusion, that his invention had been taken up for manufacture in France, but he could not say to what extent it would become popular.

## AIR MINISTRY NOTICES

### Night Flying Near Farnborough

It is notified that:—  
Within the area bounded by Aldershot-Guildford-Woking-Chertsey-Sunninghill-Wokingham-Eversley-Fleet-Aldershot, Royal Air Force aircraft will be flying every Tuesday and Friday evening until May 31, 1927.  
As the aircraft will not exhibit their navigation lights after attaining a height of 4,000 ft., civil aircraft flying in this district after sunset should keep below this altitude.  
(No. 17 of 1927.)

### R.A.F. Prize Cadetships

The Air Ministry announces:—With a view to obtaining the widest field of recruitment for permanent commissions in the R.A.F. and to throwing the profession open to able boys from the public and secondary schools without respect to means, the Air Council have decided to increase the number of Prize Cadetships offered for competition annually from three to twelve. These Prize Cadetships enable boys to complete the two years' course at the R.A.F. Cadet College, Cranwell, at a cost of only £40 in all to their parents. When Flight Cadets are commissioned at about the age of 20 they become independent of any assistance from their parents and have before them a permanent and pensionable career.

The normal cost to parents of the two years' course at Cranwell is £250, composed of fees at £75 a year and a deposit for uniform, books, etc., of £100. Flight Cadets receive pay at the rate of 7s. a day, and this should suffice with proper care to meet all expenditure for messing, games, etc., and to provide adequate pocket money. Parents are advised not to supplement this sum by a private allowance.

Prize Cadetships and ordinary Cadetships are competed for at the joint examination held by the Civil Service Commission in June and November each year for entry into the R.A.F. (Cranwell), the Army (Woolwich and Sandhurst), and the Royal Navy (Special Entry). For Cranwell candidates must be between 17½ and 19½ years of age, and must be in possession of School Certificate A or B. Applications for the June examination must reach the Civil Service Commission on or before May 4. Further information can be obtained on application to the Secretary, Air Ministry, London, W.C.2.

The Air Council believe that the offering of this increased number of Prize Cadetships will go far to realise their aim of widening the area from which R.A.F. officers are drawn.

## IMPORTS AND EXPORTS, 1925-1926

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910).

For 1910 and 1911 figures see FLIGHT for January 25, 1912.

For 1912 and 1913, see FLIGHT for January 17, 1914.

For 1914, see FLIGHT for January 15, 1915, and so on yearly, the figures for 1926 being given in FLIGHT, January 20, 1927.

	Imports.		Exports.		Re-Exports.	
	1925.	1926.	1925.	1926.	1925.	1926.
Jan. ..	£ 494	£ 1,850	£ 130,049	£ 49,021	£ —	£ —
Feb. ..	2,089	679	40,416	63,080	6,341	—
	2,583	2,529	170,465	112,101	6341	—
	✻	✻	✻	✻		

## SIDEWIND

TECALEMIT high-pressure lubrication was used with conspicuous success of the air liner "City of Delhi," which conveyed the Secretary of State for Air, Sir Samuel Hoare, and party to India and back. The engineer, Mr. T. Mayer, reports that with the Tecalemit gun fresh charges of oil were injected through the working parts, removing any trace of sand or dust. At the finish of the flight, and after some days in dust-storms, all parts were in perfect condition.

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## East African Air Mails

THE Postmaster General announces that beginning on Thursday, March 10, and fortnightly thereafter until further notice (March 24, April 7, &c.), a letter Air Mail will be despatched from London—latest time of posting 6 p.m. at the General Post Office—for transmission by the experimental air service from Cairo to Uganda (Jinja) and Western Kenya (Kisumu). All classes of correspondence (but not parcels) may be sent, but at sender's risk only, as regularity of flight cannot be guaranteed. Correspondence cannot be registered or insured. Assuming regular flight, the Air Mail will be due to reach Jinja and Kisumu on about the 12th day after despatch (i.e. on March 22, April 5, 19, etc.), and will thus offer a substantial saving in time of transmission compared with the use of the ordinary route all the way. Any letter intended for transmission by the Air Mail must bear in the top left-hand corner of the cover the official blue Air Mail label, or be plainly marked in manuscript "By Air Mail, and must be prepaid with a special fee, in addition to ordinary postage, of 6d. per oz. Subject to observance of these conditions, it may be posted in any of the ordinary ways of posting. The latest time of posting will be, generally, the same as for the ordinary Thursday despatch of Mails for Egypt, India, etc.

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## PUBLICATIONS RECEIVED

*British Legion: Annual Report and Accounts, 1926. January 1 to September 30.* British Legion, 26, Eccleston Square, London, S.W.1.

*Petter's Monthly News. No. 35. February 15, 1927.* Petters, Ltd., Westland Works, Yeovil. Price 2d.

*The Ball-Bearing Journal. No. 2, 1926.* The Skefko Ball Bearing Co., Ltd., Luton, Beds.

*Ex Alto ad Signum. By Armando Armani.* Libreria dello Stato, Rome. Price L.20.

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## AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

### APPLIED FOR IN 1925

Published March 17, 1927

31,780. H. R. H. TREVOR-BATTYE. Superchargers. (266,087.)  
32,054. N. STRAUSSLER. Collapsible floating structures such as seaplane floats, etc. (266,090.)

### APPLIED FOR IN 1926

Published March 17, 1927

2,370. V. ISACCO. Helicopter. (250,534.)  
6,973. W. C. MATTHEWS. Sustaining-surfaces for aircraft. (266,148.)  
7,952. ARMSTRONG SIDDELEY MOTORS, LTD., and J. D. SIDDELEY. Induction systems of radial-cylinder i.c. engines. (266,154.)  
19,649. H. JUNKERS. Apparatus for upsetting sheet metal. (256,962.)

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